

# PATENT SPECIFICATION

DRAWINGS ATTACHED

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918,156

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International Classification:—B01d.

## COMPLETE SPECIFICATION

### Improvements in Water Pipeline Strainers

We, LANCASTER & TONGE LIMITED, a British Company of "The Lancaster" Works, Pendleton, Salford, 6, County of Lancaster, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to improvements in water pipeline strainers.

The object of the invention is a strainer which can be cleaned by a backwash method without the supply of high pressure water for cleaning the straining surfaces.

The strainer, according to the invention, comprises a number of perforated or open mesh baskets, preferably of cylindrical shape, mounted between two discs on a pitch circle concentric with the centres thereof, the baskets being open at one end to the water inlet and closed at the other end, the water outlet being connected to the space between the discs through a series of ports in the disc on the outlet side of the strainer assembly, whereby the water flows from the inlet into the baskets and then passes through the perforated or open mesh walls thereof to the outlet so that the matter strained from the water collects in the baskets, a connection to atmosphere being provided adjacent to the outer face of the disc at the inlet side of the strainer with which outlet any one of the baskets may be brought into alignment by rotating the disc and basket assembly about its axis, thereby allowing the pressure of the water within the assembly to backwash the basket and flush extraneous matter collected therein to atmosphere.

The invention is illustrated in and will be described with reference to the accompanying drawings. In these drawings:—

Fig. 1 is a vertical longitudinal section through the strainer, and

[Price 4s. 6d.]

Fig. 2 is a section on line 2—2 of Fig. 1. The strainer comprises a number of perforated or open mesh baskets A, which are shown in the drawings as being cylindrical in shape, but they may be of other shape if desired, which are mounted between two discs B<sup>1</sup> and B<sup>2</sup> on a pitch circle concentric with the centres thereof. The two discs B<sup>1</sup> and B<sup>2</sup> are secured to a common shaft B rotatably mounted in bearings b so that the assembly of the discs B<sup>1</sup> and B<sup>2</sup> and baskets A can be rotated within casing A<sup>2</sup> of the strainer.

The baskets A are open at one end to the water inlet C and closed at the other end, and the water outlet D is connected to the space A<sup>1</sup> between the discs through the ports b<sup>1</sup> in the disc B<sup>2</sup>. The water thus passes from the inlet C through the baskets A and then through the perforated or open mesh walls thereof to the space A<sup>1</sup> and thence through the ports b<sup>1</sup> to the outlet D so that the matter strained from the water collects in the baskets A.

A connection to atmosphere is arranged adjacent to the outer face of the disc B<sup>1</sup>, the connection being through a slipper F which is lightly loaded by the spring f so as to maintain a reasonably tight joint which will prevent the by-passing of water from the inlet C to the connection to atmosphere.

The strainer may consist of any desired number of baskets A spaced at equal angular distances apart, there being sufficient space between any adjacent pair of baskets so that the straining element can be moved into a position in which none of the baskets are in alignment with the connection F to atmosphere. A suitable number of baskets is eight as shown in the drawings but any other number of baskets can be used if found desirable.

In the arrangement shown in the drawings the assembly of the discs B<sup>1</sup>, B<sup>2</sup> and baskets A can be rotated manually by the hand wheel G

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secured on the shaft  $g$  on which is also secured a pinion  $g^1$  which meshes with the toothed wheel  $b^2$  formed on or secured to the periphery of the disc  $B^2$ . A spring controlled plunger  $g^2$  mounted in the casing  $A^3$  cooperates with one of a series of recesses  $g^3$  on the inner face of the wheel  $G$  to hold the assembly in any desired position, either with a basket in alignment with the connection  $F$  or with the disc  $B^1$  in a position so that the inlet to the connection  $F$  is covered by the solid portion between two adjacent baskets  $A$ .

Although in the arrangement shown in the drawings the assembly of the discs  $B^1$  and  $B^2$  and the baskets  $A$  is rotated by the hand wheel  $G$  it may, if desired, be rotated through suitable gearing by an external motor.

To backwash the baskets  $A$  the assembly of the discs and baskets is rotated to bring each basket in turn into alignment with the connection  $F$  when the pressure of water in the space  $A^1$  of the strainer will backwash such basket and flush the extraneous matter collected therein through the connection  $F$  to atmosphere.

**WHAT WE CLAIM IS:—**

1. A water pipeline strainer comprising a number of perforated or open mesh baskets, preferably of cylindrical shape, mounted between two discs on a pitch circle concentric with the centres thereof, the baskets being open at one end to the water inlet and closed at the other end, the water outlet being connected to the space between the discs through

a series of ports in the disc on the outer side of the strainer assembly, whereby the water flows from the inlet into the baskets and then passes through the perforated or open mesh walls thereof to the outlet so that the matter strained from the water collects in the baskets, a connection to atmosphere being provided adjacent to the outer face of the disc at the inlet side of the strainer with which outlet any one of the baskets may be brought into alignment by rotating the disc and basket assembly about its axis thereby allowing the pressure of the water within the assembly to backwash the basket and flush extraneous matter collected therein to atmosphere.

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2. A pipeline strainer as in Claim 1 wherein in the assembly of the discs and baskets is rotated by a hand wheel through a pinion which meshes with a gear wheel formed on or secured to the periphery of one of the discs.

3. A pipeline strainer as in Claim 1 or Claim 2 wherein the connection to atmosphere for backwashing the baskets is in the form of a slipper held in contact with the outer face of the disc at the inlet end of the strainer by a light spring.

4. A pipeline strainer substantially as described with reference to and illustrated in the accompanying drawings

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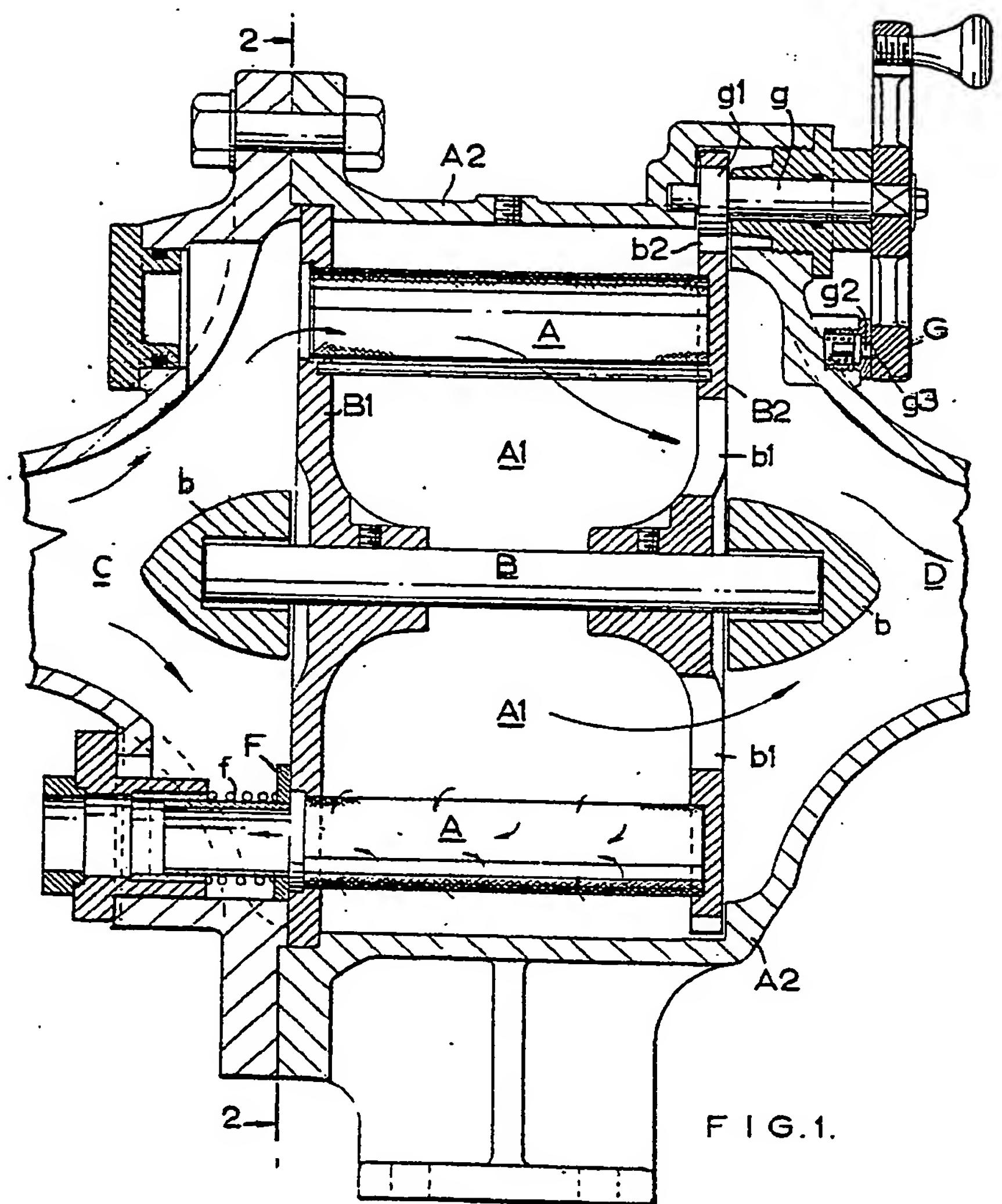


FIG. 1.

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COMPLETE SPECIFICATION

2 SHEETS

*This drawing is a reproduction of  
the Original on a reduced scale  
Sheets 1 & 2*

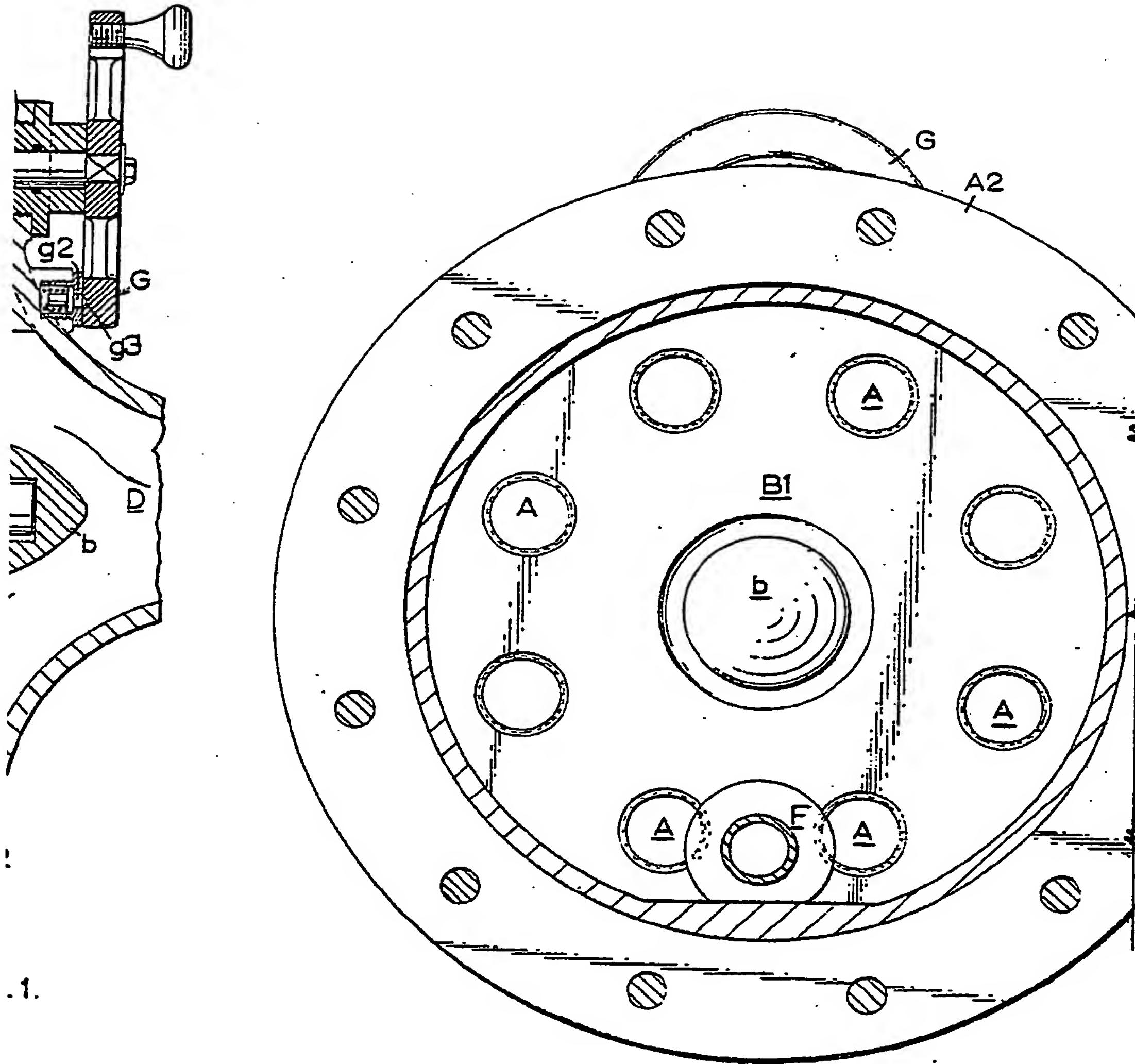


FIG. 2

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2 SHEETS This drawing is a reproduction of  
the original on a reduced scale  
Sheets 1 & 2

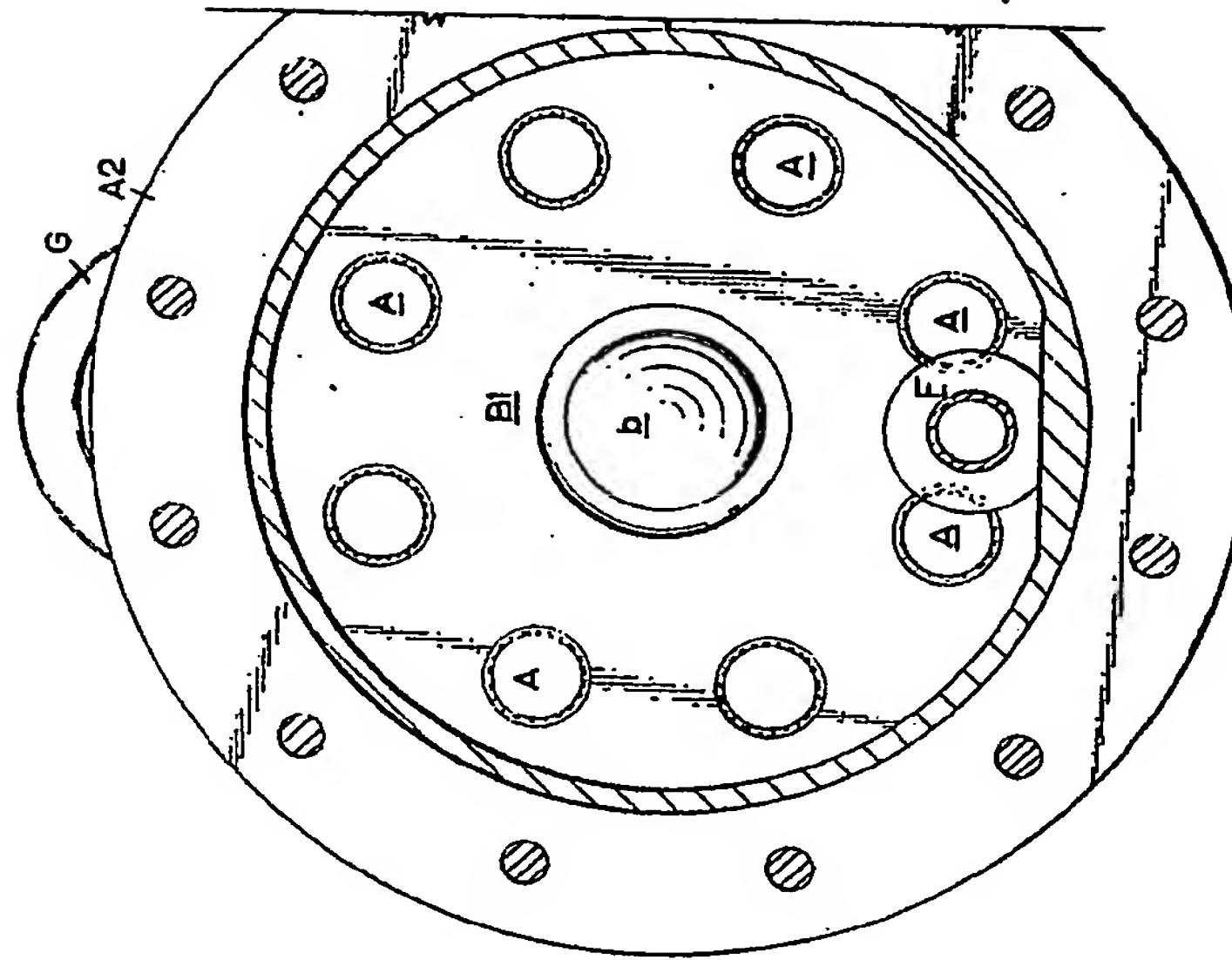


FIG. 2.

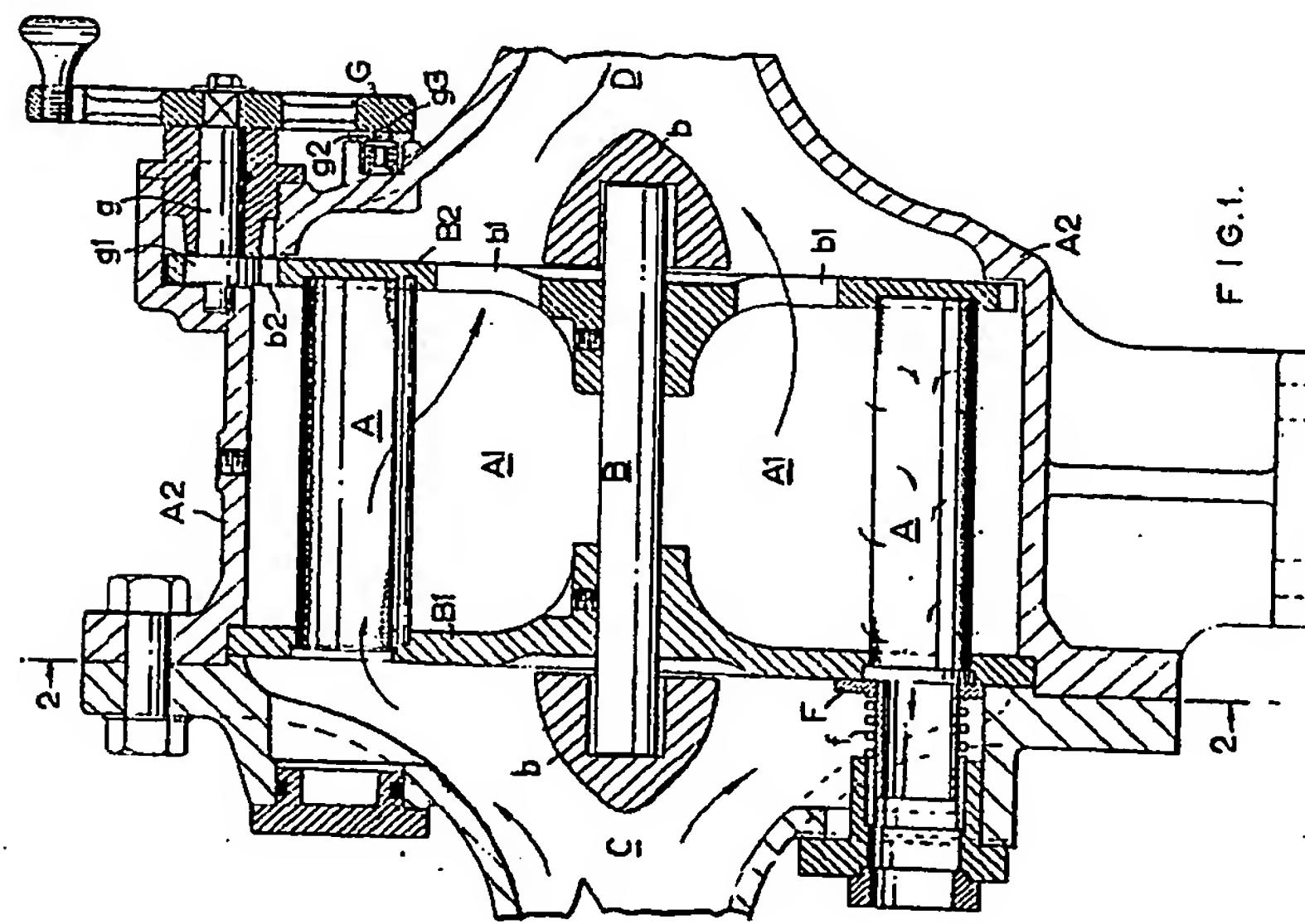


FIG. 1.